



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/618,187

07/10/2003

Kirby Floyd

A7918/T50400

4296

57385 7590 03/22/2007

TOWNSEND AND TOWNSEND AND CREW LLP / AMAT
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

ARANCIBIA, MAUREEN GRAMAGLIA

ART UNIT

PAPER NUMBER

1763

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/618,187

Applicant(s)

FLOYD ET AL.

Examiner

Maureen G. Arancibia

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 13-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II, Claims 13-20, in the reply filed on 2 January 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 1-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2 January 2007.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **90, 92, 94, and 96**. (Paragraph 23) Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,558,717 to Zhao et al.**

Zhao et al. teaches an apparatus for adjusting a spacing between a gas distribution member and a substrate support (Figures 1, 3, and 8), the apparatus comprising: a processing chamber 133 including a gas distribution member 122; a substrate support 136 disposed in the processing chamber and located generally opposite from the gas distribution member (Figure 1), the substrate support having a substrate support surface 145 configured to support a substrate on which to form a layer (Column 6, Lines 57-64); a leveling plate 249 coupled to the substrate support; and three adjustment members (comprising screws 247) each coupled between the leveling plate 249 and a reference surface 134, the at least three adjustment members being disposed at separate adjustment locations distributed over the leveling plate and independently adjustable to change positions of the leveling plate relative to the reference surface, thereby adjusting spacings between the substrate support surface and the gas distribution member at a plurality of corresponding adjustment locations on the substrate support surface to modify a tilt of the substrate support surface with

respect to the gas distribution member. (Figures 1, 3, and 8; Column 17, Line 30 - Column 18, Line 6)

Note that in regards to Claim 13, at least any three locations on the upper surface of the leveling plate 249 with an empty gap between leveling plate 249 and reference surface 134 may be considered to be measurement locations as broadly recited in the claim, since it would be structurally possible to mount a measuring device, such as a laser measurement device, for example, at any of these locations to measure distances between the leveling plate and the reference surface 134, which is fixed with respect to the gas distribution member 122. Note that Claim 13 does not positively recite a measurement device, but rather only claims at least three "measurement locations" where it would be possible to mount a measuring device. In regards to Claim 14, these three locations may be selected to each be adjacent to one of the separate adjustment locations, as broadly recited in the claim. It has been held that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Also, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

Additionally, in regards to Claims 13-15, the adjustment members comprise threaded screws 247 (Figure 8; Column 17, Lines 66-67), which may themselves be considered to be measurement devices, since one need only count the number of

exposed threads on each screw to obtain a measurement of the distance between the leveling plate and the reference surface at that measurement location. The leveling plate 249 includes slots (holes) at three "measurement locations" to at least temporarily mount the "measurement devices" (screws 247) at each of the measurement locations, as broadly recited in the claim. The screws may be considered to be temporarily mountable, in that they are removable by disassembly of the adjustment apparatus. (Figures 3 and 8)

In regards to Claim 16, the adjustment members comprise adjustment screws 247 threadingly coupled to the leveling plate 249 and having ends bearing against the reference surface 134 of the processing chamber; and knurled lock nuts (Figure 8) threadingly coupled to the adjustment screws and bearing against a surface of the leveling plate. (Figures 3 and 8)

In regards to Claims 17 and 18, the leveling plate 249 is generally parallel to the substrate support surface 145, and the plurality of corresponding adjustment locations on the substrate support surface are generally aligned with the plurality of adjustment locations on the leveling plate, which are uniformly distributed around the substrate support surface with respect to a center of the substrate support surface (i.e. an adjustment of an adjustment member will cause a corresponding adjustment at a corresponding point on the substrate support surface), as broadly recited in the claims. (Figure 3)

In regards to Claim 18, the reference surface 134 is a bottom surface of the processing chamber 133. (Figure 1)

In regards to Claim 19, the gas distribution member 122 comprises a faceplate and the reference surface 134 is generally parallel to the faceplate. (Figure 1)

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,543,890 to Tanaka et al. teaches an apparatus for adjusting an alignment of a substrate support 10, comprising measurement devices 48 in slots on a leveling plate 20. (Figures 1 and 2; Column 6, Lines 17-19)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1763

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Maureen G. Arancibia
Patent Examiner
Art Unit 1763



Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763